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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/020,833

12/13/2001

Sophie Vrzic

7000-114

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27820 7590 09/24/2008  
WITHROW & TERRANOVA, P.L.L.C.  
100 REGENCY FOREST DRIVE  
SUITE 160  
CARY, NC 27518

EXAMINER

MEUCCL, MICHAEL D

ART UNIT

PAPER NUMBER

2142

MAIL DATE

DELIVERY MODE

09/24/2008

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SOPHIE VRZIC, MO-HAN FONG, and HANG ZHANG

Appeal 2008-0877  
Application 10/020,833  
Technology Center 2100

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Decided:

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*Before* JAMES D. THOMAS, LANCE LEONARD BARRY,  
and THU A. DANG, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellants appeal the Examiner's final rejection of claims 1-28 under 35 U.S.C. § 134. We have jurisdiction under 35 U.S.C. § 6(b).

## A. INVENTION

According to Appellants, the invention relates to wireless communications, and more particularly, relates to scheduling data for transmission from a base station to one or more mobile terminals (Spec., p. 1, para. [0001]).

## B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary and is reproduced below:

1. An access point for scheduling delivery of units of data to a plurality of access terminals comprising:
  - a. a network interface for receiving data from a communication network;
  - b. a wireless interface for transmitting units of the data to a plurality of access terminals; and
  - c. a control system associated with the network interface and the wireless interface and adapted to:
    - i. store the data received over the communication network as units corresponding to the plurality of access terminals;
    - ii. generate a prioritization factor for each unit of data, the prioritization factor being controlled:
      - A. in proportion to a required data rate associated with each unit of data,
      - B. to maintain a minimum desired data rate associated with each unit of data, and
      - C. to achieve an adaptive fairness objective; and

iii. schedule transmission of each unit of data based on the prioritization factor such that more emphasis is placed on fairness when many users are close to the required data rate and more emphasis is placed on maximizing throughput when all users are far from the required data rate.

### C. REJECTIONS

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Rananand	US 5,935,213	Aug. 10, 1999
Ganz	US 6,049,549	Apr. 11, 2000
Ketcham	US 6,363,429 B1	Mar. 26, 2002 (filed Apr. 20, 1999)
Kilkki	US 6,421,335 B1	Jul. 16, 2002 (filed Oct. 26, 1998)
Walton	US 6,493,331 B1	Dec. 10, 2002 (filed Mar. 30, 2000)
Fawaz	US 6,654,374 B1	Nov. 25, 2003 (filed Nov. 10, 1998)
Bahl	US 6,795,865 B1	Sep. 21, 2004 (filed Oct. 8, 1999)
Liao	US 2004/0136379 A1	Jul. 15, 2004 (filed Mar. 13, 2001)

Claims 1, 8, 10, 17, 19, 26, and 28 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham and Rananand.

Claims 2, 11, and 20 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Fawaz, and Ganz.

Claims 3, 12, and 21 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, and Liao.

Claims 4-6, 13-15, and 22-24 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, and Walton.

Claims 7, 16, and 25 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Walton, and Kilkki.

Claims 9, 18, and 27 stand rejected under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Fawaz, and Walton.

## II. ISSUES

The issue is whether Appellants have shown that the Examiner erred in finding that claims 1-28 are unpatentable under 35 U.S.C. § 103(a), and in particular, that Rananand teaches a control system adapted to “schedule transmission of each unit of data based on the prioritization factor such that more emphasis is placed on fairness when many users are close to the required data rate and more emphasis is placed on maximizing throughput when all users are far from the required data rate” (Claim 1).

## III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

### *Rananand*

1. Rananand discloses a computer network 10, wherein, depending on the connections which have a particular service rate guarantee, the network 10 will guarantee that cells associated with those connections will be transferred at a particular rate through the network 10. This service rate may differ as among the various connections. Connections may be provided with a minimum service rate, in which case they will be ensured at least a specified minimum rate, but may

be transferred faster when there is available transfer bandwidth above that required for the connections for which there is a service rate guarantee (col. 4, l. 62 to col. 5, l. 7; Fig. 1).

2. If the buffer occupancy rate is relatively high, the RM cell information generator 85 will consider the resources which are devoted to the particular connection, which, in turn, so as to permit generally equal sharing of the resources among all of the connections serviced by the output port module 61(p) (col. 18, ll. 7-15; Fig. 5).

#### PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

The *claims* measure the invention. *See SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). "[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

*KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

The Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” and discussed circumstances in which a patent might be determined to be obvious. *KSR*, 127 S. Ct. at 1739 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court noted that “[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR*, 127 S. Ct. at 1742. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *Id.*

In the absence of separate arguments with respect to claims subject to the same rejection, those claims stand or fall with the claim for which an argument was made. *See In re Young*, 927 F.2d 588, 590 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

## V. ANALYSIS

### *Combinability under 35 U.S.C. § 103*

The Examiner finds that one of ordinary skill in the art would have found it obvious to combine the teachings of the cited references beginning at page 6 of the Answer, which comply with the requirements of the above-

noted case law. The Appellants provide no argument to dispute that the Examiner has correctly shown that it would have been obvious to combine the references. Thus, we deem those arguments waived.

*Elements under 35 U.S.C. § 103*

*Claims 1, 8, 10, 17, 19, 26, and 28*

Appellants do not provide separate arguments with respect to the rejection of claims 1, 8, 10, 17, 19, 26, and 28. Therefore, we select independent claim 1 as being representative of the cited claims. 37 C.F.R. § 41.37(c)(1)(vii).

Appellants argue that the cited references fail to teach or suggest at least that “the data units are scheduled for transmission based on a prioritization factor such that *more emphasis is placed on fairness when many users are close to the required data rate and more emphasis is placed on maximizing throughput when all users are far from the required data rate*” (App. Br. 11). Though Appellants admit that, in Rananand, “higher transfer rates are used when there is available bandwidth for connections” and thus “relates to increasing throughput” (App. Br. 11), Appellants argue that “Rananand does not increase data rate, let alone attempt to maximize throughput, *when all users are far from the required data rate*” (App. Br. 12). Furthermore, Appellants argue that “Rananand does not teach or suggest emphasizing fairness, let alone emphasizing fairness *when many users are close to the required data rate* (App. Br. 12).

Appellants’ arguments that Rananand does not disclose the claimed “more emphasis is placed on fairness” and “more emphasis is placed on



maximizing throughput” limitations are not commensurate with the invention that is claimed. That is, though Appellants agree that Rananand discloses increasing throughput in general, Appellants appear to be arguing that Rananand does not disclose emphasizing increasing throughput *only* when all users are far from the required data rate. Similarly, Appellants appear to be arguing that Rananand does not teach emphasizing fairness *only* when many users are close to the required data rate. Such *only* limitation cannot be read into the claims and such argument is not commensurate with the claimed invention. See *In re Van Geuns*, at 1184. Accordingly, the issue is whether Rananand discloses a control system adapted to “schedule transmission of each unit of data based on the prioritization factor such that more emphasis is placed on fairness when many users are close to the required data rate and more emphasis is placed on maximizing throughput when all users are far from the required data rate” (Claim 1).

We agree with the Examiner’s finding that Bahl, Ketcham, and Rananand disclose the claimed elements on appeal beginning at page 4 of the Answer, and the Examiner’s corresponding responsive arguments beginning at page 22 of the Answer.

Rananand discloses that connections may be provided with a minimum service rate, in which case they will be ensured at least a specified minimum rate, but may be transferred faster when there is available transfer bandwidth above that required for the connections for which there is a service rate guarantee (FF 1). We agree with the Examiner’s finding that “higher transfer rates are used when bandwidth is available explicitly purports that transfer rates will be increased until bandwidth is no longer

available, thereby maximizing throughput” (Ans. 22). We find that such maximizing of throughput of Rananand is emphasized in various situations **including** when users are far from the required data rate. In fact, an artisan would have understood the need to maximize throughput until bandwidth is no longer available when the users are far from the required data rate, since the artisan is a person of ordinary creativity, not an automaton. See *KSR*, 127 S. Ct. at 1742.

Rananand also discloses equal sharing of the resources among all of the connections serviced by the output port module (FF 2). We agree with the Examiner’s finding that “the equal sharing of the resources among all of the connections emphasizes fairness when the buffer occupancy rate is relatively high, causing throughput to be low due to the buffer being full and dropping transfer rates near or below the minimum required transfer rate” (Ans. 22-23). We find that such fairness of Rananand is emphasized in various situations **including** when users are close to the required data rate. An artisan would have understood the need to emphasize fairness when it is not possible to emphasize maximizing throughput.

In the Reply Brief, Appellants add the argument that “a possible result is not what is claimed” (Reply Br. 3). Appellants also argue that “Rananand does not base its scheduling on these features” (Reply Br. 4). However, such arguments are not commensurate with the invention as claimed.

As discussed above, the claims do not recite **only** when all users are close to or far from the required data rate, but rather, just “when all users are far from the required data rate” and “when all users are close to the required data rate.” That is, the claims do not **exclude** emphasizing when the users

are *not* close to or far from the required data rate. We agree with the Examiner's finding that, contrary to Appellants' argument, Rananand discloses control systems adapted to schedule transmission in various situations, which *includes* when users are close to and far from the required data rate (FF 1-2). From the teachings of Rananand, an artisan would have understood the need to emphasize maximizing throughput until bandwidth is no longer available when the users are far from the required data rate, and emphasize fairness when it is not possible to emphasize maximizing throughput.

Accordingly, we conclude that Appellants have not shown that the Examiner erred in finding that Rananand teaches a control system adapted to "schedule transmission of each unit of data based on the prioritization factor such that more emphasis is placed on fairness when many users are close to the required data rate and more emphasis is placed on maximizing throughput when all users are far from the required data rate" (Claim 1). We thus conclude that the Examiner did not err in rejecting claim 1 and claims 8, 10, 17, 19, 26, and 28 falling with claim 1, under 35 U.S.C. § 103(a).

*Claims 2-7, 9, 11-16, 18, 20-25, and 27*

As to claims 2-7, 9, 11-16, 18, 20-25, and 27, Appellants provide the same argument as claims 1, 10, and 19 from which they depend, and add the arguments that Fawaz, Ganz, Liao, Walton, and Kilkki, respectively, "fails to cure the deficiencies of the combination of Bahl, Ketcham, and Rananand" (App. Br. 16-17).

We find no deficiencies regarding Bahl, Ketcham, and Rananand, as discussed above regarding claims 1, 8, 10, 17, 19, 26, and 28. Therefore, we conclude that Appellants have not shown that the Examiner erred in rejecting claims 2-7, 9, 11-16, 18, 20-25, and 27 under 35 U.S.C. § 103(a).

#### CONCLUSION OF LAW

(1) Appellants have not shown that the Examiner erred in finding claims 1, 8, 10, 17, 19, 26, and 28 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham and Rananand.

(2) Appellants have not shown that the Examiner erred in finding claims 2, 11, and 20 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Fawaz, and Ganz.

(3) Appellants have not shown that the Examiner erred in finding claims 3, 12, and 21 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, and Liao.

(4) Appellants have not shown that the Examiner erred in finding claims 4-6, 13-15, and 22-24 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, and Walton.

(5) Appellants have not shown that the Examiner erred in finding claims 7, 16, and 25 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Walton, and Kilkki.

(6) Appellants have not shown that the Examiner erred in finding claims 9, 18, and 27 unpatentable under 35 U.S.C. § 103(a) over the teachings of Bahl, Ketcham, Rananand, Fawaz, and Walton.

(7) Claims 1-28 are not patentable.

DECISION

The Examiner's rejection of claims 1-28 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

rwk

WITHROW & TERRANOVA, P.L.L.C.  
100 REGENCY FOREST DRIVE  
SUITE 160  
CARY NC 27518